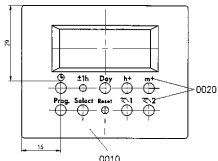WA-EKF 80.10.1038.7

1. Starting Up

Electrical equipment should always be installed and assembled by a professional electrician. (The term professional electrician is defined in VDE 0105).

Note:
The device contains well thought-out electronics. These electronics are protected from most kinds
of external interference. However, it must be noted that the mains voltage can have extremely high voltage spikes superimposed on it.
Problems also occur when switching contactors, which can affect an electronic device in spite of all the internal protection measures. In order to provide as much operational reliability as possible, attention should be paid to the following details when connecting.

a) In larger systems safety coils switched directly by the clock switch
must be screened using a suitable varistor or RC module.

b) If inductive direct current consumers are switched, a free-wheeling diode must be installed.

c) Inductive loads and especially fluorescent tubes put a particular strain on the output contacts

In isolated cases, check whether the installation of a cutoff relay or contactor is required.
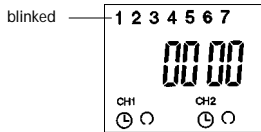
2. Keyboard description

3 Operating the Switch Clock

The marked ► operations are required to carry out a switching program.

3.1 Reset

► Operate **"Res"** button using a pencil or similar object.
This puts the switch clock into the normal state.
– before every fresh start
– to delete all switching times, the time and the date

► 3.2 Entering the time and the day of the week

❶ After pressing the **"Res"** button (see 3.1)
❷ During summer time, press: **"±1h"** button once
❸ Hold **" ⊙ "** button down during step ❹, ❺, ❻
❹ enter hours using **"h+"** button
❺ enter minutes using **"m+"** button
❻ enter day of week using **"Day"** button: 1=Mon... 7 = Sun
❼ release **" ⊙ "** button

The colon now blinks every second.

> Note:
> If the **"h+/m+"** buttons are held down for longer than 2 seconds a fast run occurs.

► 3.3 Enter switching times

42 memory locations are available. Each switching time occupies 1 memory location.

❶ press **"Prog."** Button until a free memory location **"– – : – –"** is displayed.
❷ select the switch function using **" ⊗ "** button for channel 1 or 2 (depending on version) **" ◉ "** = ON or **" ○ "** = OFF.
❸ enter hours using **"h+"** button
❹ enter minutes using **"m+"** button

If a switching command is to be performed every day, continue with step ❺.
If a particular switching command is only to be performed on 1 day or certain days, skip step ❺ and continue with step ❻.

❺ save using **"Prog."** button   **or**
❻ select 1 day using **"Day"** button on which switching command is <u>not</u> to be performed (cursor blinks)
❼ confirm this day with **"Sel."** button (weekday and cursor blink)
❽ press **"Day"** key (day is deselected)
Repeat step ❻, ❼ and ❽ for each day to be deselected.
❾ Save using **"Prog."** button
(next free memory location is displayed)

or

❿ save using **" ⊙ "** button
The clock switch switches to automatic mode and displays the current time.

Each other switching time and the associated switching state
◉ = ON or = ○ OFF start again at 3.3.

> Note:
> If an incomplete entry is made, the segments that have not yet been selected are displayed in blinking mode.

Falls Sie einen Tag abgewählt haben an dem der Schaltbefehl doch ausgeführt werden soll:

❶ mit **"Day"** Taste den abgewählten Tag neu anwählen (Wochentag und Cursor blinken)
❷ mit **"Sel."** Taste diesen Tag bestätigen (Cursor blinkt)
❸ **"Day"** Taste drücken (Tag ist <u>wieder</u> angewählt)
❹ mit **"Prog."** Taste speichern (es wird der nächste freie Speicherplatz angezeigt)

oder

❺ mit **" ⊙ "** Taste speichern

3.4 Free channel blocking

Channels 1 and 2 (or 1 or 2) can be assigned to any switch command –
" ◉ " or **" ○ "**.

---

4. Additional functions

4.1 Manual summer/winter time changeover

● press **"±1h"** button once

4.2 Automatic summer and winter time changeover
The following 3 changeover variants are available

AU (Automatic) = fixed changeover

The S/W time changeover takes place using a preset calendar program, which is programmed up to the year 2079 and cannot be modified. (Legal summer time regulation of European Union and Switzerland)

Start of summer time: always the last Sunday in March.
The hour counter is moved forward by one hour from 2 to 3 o'clock.

End of summer time: Always the last Sunday in October.
The hour counter is moved back from 3 to 2 o'clock.

cHA (calculated semi-automatic) = selectable changeover with weekday reference

The summer time start date that applies to your location/country is entered (e.g. date of last Friday in April of current calendar year) and the summer time end date (e.g. date of first Tuesday in October of current calendar year).

The program automatically assigns the correct weekday to these dates (Friday or Tuesday in this case).

In subsequent years the time change always takes place on the calculated Weekday, irrespective of the date (last Friday in April and First Tuesday in October in this case).

HA (Semi-automatic) = Selectable changeover with date reference

The summer time start and end dates that apply to your location/country are entered. In subsequent years the time change always takes place on the same date.

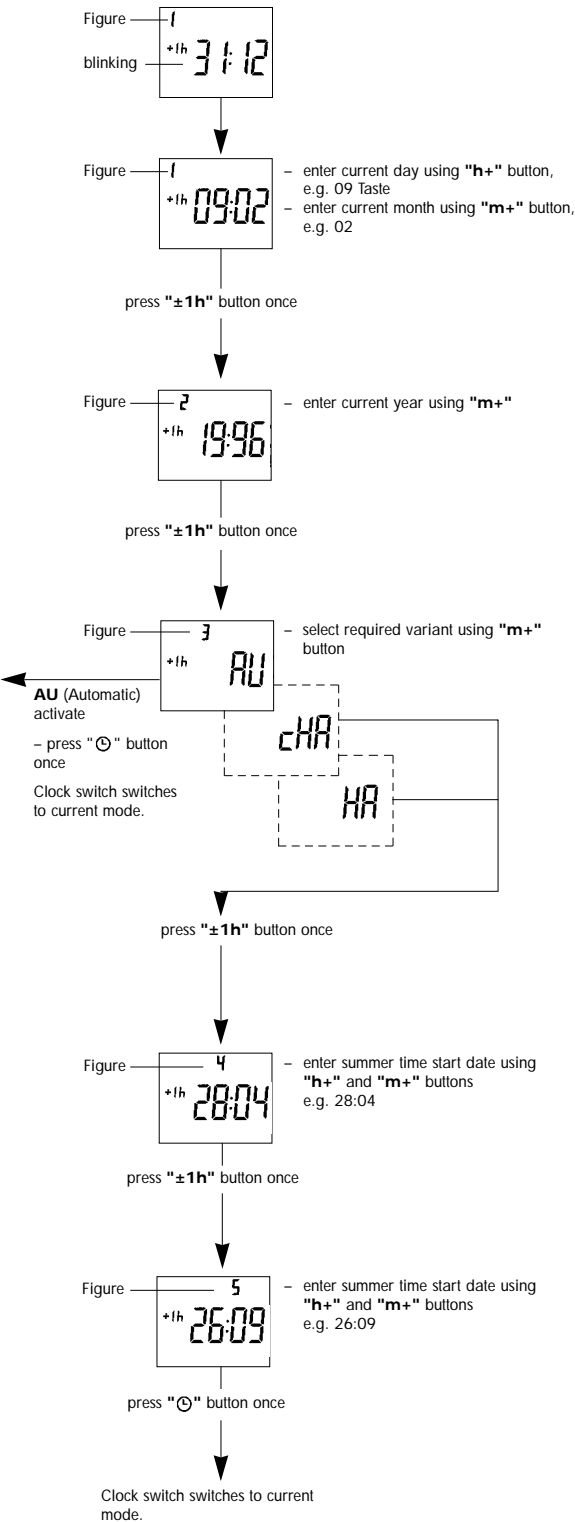#### Activating automatic summer/winter time changeover

A prerequisite for the automatic S/W time changeover is entry of the current date.

Note:
If the switch clock is switched to AM/PM, the month is set using the **"h+"** button and the day using the **"m+"** button.

Entering the current date

Press **"±1h"** and **"Day"** buttons once simultaneously

Reading the entered dates

❶ Press **"±1h"** and **"Day"** buttons once simultaneously
❷ All the entered dates can now be read in sequence by pressing the **"±1h"** several times
❸ You can switch to the current mode at any time by pressing the **" ⊙ "** button

Changing the entered dates

Changes can only be made in the cHA and HA variants!

❶ Press **"±1h"** and **"Day"** buttons once simultaneously
❷ Press **"±1h"** button twice
❸ Select the cHA or HA variant using the **"m+"** button
❹ Modify changeover times as described in figures 1 to 5

Deactivating the automatic S/W time changeover

❶ Press **"±1h"** and **"Day"** buttons once simultaneously
❷ Keep pressing the **"h+"** button until **"– –"** is displayed (after last day of respective month)
❸ Press **" ⊙ "** button: Clock switches to current mode

Then the S/W changeover can be made either manuallyby pressing the **"±1h"** button once, or new dates can be entered as described in figures 1 to 5.

4.3 Manual Switch " ⊗ "

The current switching status can be changed at any time using the " ⊗ " button for channel 1 or 2 (depending on version).
The entered switching program does not change in this case.

Automatic Mode ⊙	Manual Mode ⊗	Continuous Mode ◉ ○
⊙ ◉ = ON	○ ⊗ = OFF	◉ = Continuous ON
⊙ ○ = OFF	◉ ⊗ = ON	○ = Continuous OFF
Switching times correspond with entered program	If the current switching status is changed manually, the next switching command is automatically performed again according to the entered program.	You can only return to automatic mode from switching statuses ◉ and ○ by pressing the " ⊗ " button

4.4 Reading the programmed switching times

❶ press **"Prog."** button several times:
– displays all entered switching times, starting with the first memory location
– then the first free memory location **"– – : – –"** is displayed
– then the number of free memory locations is displayed
If all the memory locations are occupied, the following appears on the display: **"FR 00 "**
❷ press **" ⊙ "** button:
The clock switch switches to the current mode and displays the current time.

4.5 Changing the programmed switching times

❶ keep pressing **"Prog."** Until switching time to be changed is displayed
❷ Then the new dates can be entered as described in section 3.3

> Note on storing switching times:
> If the programming procedure is not completed by pressing the " ⊙ " button after entering the switching times (3.3), the entire switching command will be stored after approx . 90 seconds regardless. Then the clock switch switches to the current mode and displays the current time again.

4.6 Deleting individual switching times

❶ keep pressing the **"Prog."** button until the switching time to be deleted is displayed
❷ set to "– –" using the **"h+"** button or the **"m+"** button and hold the " ⊙ " button down for approx. 3 seconds.
The switching time is deleted and the current time is displayed when the button is released.

4.7 AM/PM Time display

If the **"±1h"** button and the **"h+"** button are pressed simultaneously, the time display switches to AM/PM mode.
(mainly used in English-speaking countries.)

Switch output:
Channel 1 = green strand
Channel 2 = white strand

6.0 RND = Random program / random number generator
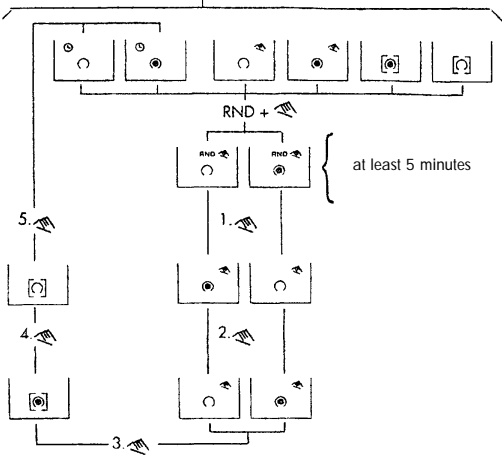
a) without assigned switching times

The random program can be switched separately for channels 1 and 2
manual = ⦿ On or = ◯ Off.

The "random" switching times lie within the following fixed values:

⦿ max. 60 minutes ⎫
◯ max. 30 minutes ⎬ min. 5 Minuten

RND + ✎1/ ✎ 2 = Switch random program on
5 x ✎ 1/ ✎ 2 = Switch random program off and return to
automatic program or programmed
RND off ◯ command. See section 6.0 b

Possible starting points (per channel) without assigned switching times

b) with assigned switching times

The switching times to which the "RND" index has been assigned determine the start and stop of the random program.

The "random" switching times are within the specified fixed values, see 6.0 a

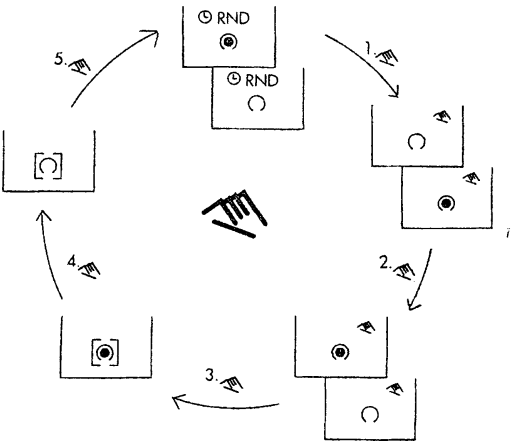The connected consumers, e.g. corridor lighting, is (randomly) switched on at regular intervals.

Example for CH 1: 4 (TH) 21.⁰⁰ ⦿ RND
4 (TH) 23.⁵⁵ ◯ RND

Buttons: Prog | Day, Select, h+, m+, ✎1, RND | Prog

Note: After "RND◯" the switching status of the relay can be ⦿ or ◯.
Depending on the situation, an additional
"Standard" command must be programmed.

c) Of course, the random program can be manually interrupted or indexed at any time

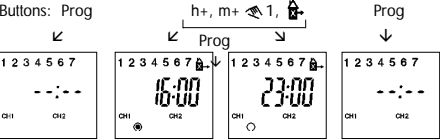possible starting position (per channel) with assigned switching times

7.0 = Holiday program

a) The holiday program has priority over the "standard week program", see section 4.4

b) The holiday program can only be entered if all 7 weekdays have been selected.

c) The holiday program is only active if
- switching times have been stored, see 7.1
- the duration of the holiday period has been preselected (1...99 days)
- or has been defined as unlimite

d) The start of the holiday program can be the current weekday, or be preselected for a maximum of 6 days.

7.1 Switching times for holiday program are entered like "Standard" switching commands, see 4.4, but the symbol for each holiday switching time must also be entered.

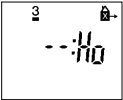Example for CH 1: 1 2 3 4 5 6 7 (Mon... Sun) 04.00
1 2 3 4 5 6 7 (Mon... Sun) 11.00

Buttons: Prog h+, m+ ✎ 1, Prog

7.2 Start and duration of holiday program

Important: Before the start and the duration of the holiday program
can be entered
You must switch to the current mode using button ⏱ .

If no switching times are stored for the holiday program and button x is clicked, the holiday symbol blinks.

Entering switching times for the holiday symbol, see 7. 1

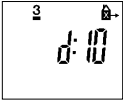Press button once and appears in the display:

The cursor for the current weekday blinks.

If button ⏱ is now pressed the holiday program (HO=Holiday) becomes active immediately and for an unlimited period - see 7.0 c.
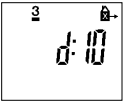

e.g. Wednesday

a) If the holiday program is to start on the current weekday, the number of holiday days is entered using "Select". If the "Select" button is held down for more than 2 seconds roll mode occurs. e.g. 10 holiday days
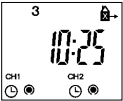
Example:

b) This entry is stored using button ⏱ and the current switching status is established at the same time in accordance with the holiday program.

Example:

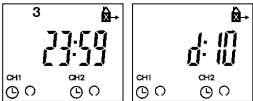c) Note: Press button ⏱ to read the current: Weekday, time, switching status

Example

d) The number of preselected holidays (1) is decremented daily, e.g.. d10, d9, d8... Then the current time is redisplayed. The switching times for the holiday program are retained, but are inactive, see section 7.0c.

e) If the holiday program is to start at a later time (max. 6 days) button is used to enter the value. Select the current day using "Day", e.g. 1 = Monday and enter the number of holiday days using "Select", see item 7.2. This entry is saved using button ⏱ And the current mode is established at the same time. The current day is displayed up to the preselected holiday program.
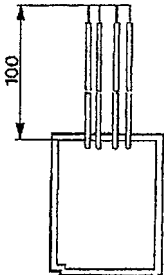
Day change

When the day changes (midnight) the holiday program starts and the duration thereof is displayed, see section 7.2.

7.3 Premature cancellation/interruption of holiday program

a) If the holiday program has already started, press button once. The clock switch goes into the current mode.

b) with assigned switching times The switching times to which the "RND" index has been assigned determine the start and stop of the random program. The "random" switching times are within the specified fixed values, see 6.0 a.

red +1,5 V
black 0 V
green switch output CH 1
white switch output CH 2